1 —> 9. (Twice Amended) A process for controlling[the]pressure within a chamber, comprising

2 the steps of:

3   initial generating an originating valve position feedback signal, said originating valve

4 position feedback signal comprising data representing the position of a motor drive

5 operatively connected to a valve when said valve resides in an originating position, said

6 originating position defined as the position of said valve prior to commencement of said

7 chamber pressure control;

8   first generating a pressure sensor signal responsive to the pressure in said chamber;

9   second generating a step command signal responsive to said pressure sensor signal

10 and a tool logic signal, said step command signal generating comprising applying a pressure

11 control algorithm to said pressure sensor and tool logic signals;

12   third generating a direction/speed command signal responsive to said step command

13 signal and [a]said valve position feedback signal, said direction/speed command signal

14 generating comprising applying a position control algorithm to said step command and valve

15 position feedback signals;

16   actuating [a]said valve responsive to said direction/speed command signal, said

17 actuating comprising moving said valve by operation of said motor drive, said actuating

18 resulting in said valve residing in a position, said valve in fluid communication with said

19 chamber;

20   fourth generating another said valve position [error]feedback signal responsive to

21 said position of said valve, said valve position feedback signal comprising data representing

22 the position of said motor drive operatively connected to said valve; and

23   repeating said third generating, said actuating and said fourth generating steps until

24 said pressure is controlled adequately[direction/speed command signal generating step, said

25 actuating step and said valve position error generating step substituting said valve position

26 error feedback signal for said valve position feedback signal].

1   14. (Twice Amended) A process for controlling the fluid flow through a conduit whereby the

2   pressure in a chamber in fluid communication with said conduit is controlled, comprising the steps

3   of:

4   initial generating an originating valve position feedback signal, said originating valve

5   position feedback signal comprising data representing the position of a motor drive

6   operatively connected to a valve when said valve resides in an originating position, said

7   originating position defined as the position of said valve prior to commencement of said fluid

8   flow control;

9   generating a [flow]pressure sensor signal responsive to the [flow]pressure in said

10   [conduit]chamber;

11   generating a step command signal responsive to said [flow]pressure sensor signal and a tool

12   logic signal, said step command signal generating comprising applying a pressure control algorithm

13   to said pressure sensor and tool logic signals;

14   generating a direction/speed command signal responsive to said step command signal and

15   said[a] valve position feedback signal, said direction/speed command signal generating comprising

16   applying a position control algorithm to said step command and valve position feedback signals;

17   actuating [a]said valve responsive to said direction/speed command signal, said actuating

18   comprising moving said valve by operation of said motor drive, said actuating resulting in said

19   valve residing in a valve position, said valve in fluid communication with said conduit;

20   generating another said valve position [error]feedback signal responsive to said position of

21   said valve, said valve position feedback signal comprising data representing the position of said

22   motor drive operatively connected to said valve; and

23   repeating said direction/speed command signal generating step, said actuating step and said

24   valve position [error]feedback signal generating step until said conduit fluid flow and said chamber

-3/14-

25   <u>pressure are controlled adequately.</u>[substituting said valve position error feedback signal for said

26   valve position feedback signal]